

REMARKS

This application has been reviewed in light of the Office Action dated May 6, 2005. Claims 1-5 and 7-19 are presented for examination. Claim 6 has been cancelled without prejudice or disclaimer of subject matter. Claims 1, 2, 4, 5, 8-10, and 13-17 have been amended as discussed below. Claims 18 and 19 have been added to provide Applicants with a more complete scope of protection. Claims 1, 2, and 9 are in independent form. Favorable reconsideration is respectfully requested.

Applicants note with appreciation the indication that Claims 9-12 and 14 would be allowable if rewritten in independent form and, in the case of Claims 9-12, to overcome the objection to Claim 9.

Claim 9 has been rewritten in independent form with certain changes to address the Examiner's objection thereto. In addition, the term "cell" has been changed to "container" for consistency with the other claims amended herein. Applicants note that the subject matter of Claim 7 has not been incorporated into Claim 9, because in Applicants' view, the patentability of Claim 9 does not depend on the second independent tank recited in Claim 7. This is in accordance with the statement of reasons for allowance at page 7 of the Office Action, which does not mention the second independent storage tank. Claims 9-12 are therefore believed to be allowable.

Claim 15 has been amended to address the Examiner's objection thereto. Withdrawal of this objection is respectfully requested.

The Examiner also objected to the specification and to Figure 2, stating that the section line in Figure 2 should be labeled "III-III" and that the description of Figure 3 should read "section along III-III in Figure 2." Applicants have amended the specification

and Figure 2 in accordance with the Examiner's suggestions and submit herewith a replacement sheet for Figure 2. Applicants respectfully request withdrawal of these objections.

The abstract has been amended in a manner believed to obviate the Examiner's objection thereto.

The rejection of Claim 6 under 35 U.S.C. § 112, first paragraph, and the objection to the Drawings under 37 C.F.R. § 1.83(a) have been rendered moot by the cancellation of that claim.

Support for new Claims 18 and 19 may be found, for example, in Figures 2-4 and 6 of the specification.

Claims 1, 3-8, 13 and 15-17 were rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent 6,527,075 (*Izuchukwu et al.*).

Generally speaking, the invention is directed to a structural platform having containers integrally formed therein to store fluid under pressure. As shown, for example, in Figure 1, the structural platform is a load-bearing component of the vehicle and, in this particular example, forms the floor of the vehicle. The cited references do not disclose such an arrangement.

Claim 1 is directed to a structural platform for a motor vehicle. The structural platform includes a tank for the storage on the vehicle of a fluid under pressure. The tank includes at least one network of containers integrally formed in the structural platform and connected together via interconnections. The interconnections are conformed so that the flow of fluid caused by the consumption of fluid necessary for the use of the vehicle exhibits only pressure drops not affecting the use. The interconnections also are

conformed so that, in the event of rupture of one or more containers, the leakage flow causes sufficiently high pressure drops to limit the flow rate thereof. The structural platform forms a load-bearing component of the vehicle.

Izuchukwu et al. relates to a gas storage pack which includes a pressure vessel having hollow chambers connected by conduits. The vessels are arranged in various configurations, including on a roof panel of a vehicle (see Figs. 11 and 12). The vessels may also be arranged in a spiral configuration to fit in conventional racks for holding metal gas canisters (col. 11, lines 3-6; Fig. 13) or arranged in a rectangular configuration to be attached to a vehicle panel or underneath a vehicle (col. 11, lines 6-9; Fig. 14).

However, the vessels discussed in *Izuchukwu et al.* are not integrally formed in a structural platform, but rather, are axially interconnected by a tubular core and placed in a protective housing (see e.g., col. 7, lines 24-26, and col. 8, line 55 - col. 9, line 29). Hence, *Izuchukwu et al.* does not describe or suggest a tank having a network of containers integrally formed in a structural platform, as recited in Claim 1, much less a structural platform that forms a load-bearing component of the vehicle, as further recited in that claim.

Accordingly, Claim 1 is believed to be patentable over *Izuchukwu et al.*

Claim 2 was rejected under 35 U.S.C. § 103(a) as being obvious over *Izuchukwu et al.* in view of U.S. Patent No. 6,459,231 (*Kagatani*).

Claim 2 is directed to a structural platform for a motor vehicle. The claim recites, *inter alia*, that the structural platform has a tank for the storage on the vehicle of a fluid under pressure. The tank includes a network of containers connected together via

interconnections. The network includes at least a hundred and no more than a hundred thousand containers.

Among the advantages of this arrangement is that the destruction of one or more containers results in only a minimal release of the stored fluid and reduces the risk of explosion (see, e.g., paragraphs 11-15).

As acknowledged in the Office Action, *Izuchukwu et al.* does not describe or suggest a network of at least a hundred and no more than a hundred thousand containers, as recited in Claim 2, and the Examiner instead turns to *Kagatani* for this feature.

Kagatani relates to a power generation device in which hydrogen is used in combination with air in an electrolysis-electrical cell to produce electric power. Several hundred such fuel cells are interconnected to create the necessary voltage for efficient operation of the fuel cells (see col. 10, lines 47-49).

However, the fuel cells disclosed in *Kagatani* are configured to receive and consume hydrogen and oxygen to produce electrical power, rather than to act as containers for the storage on the vehicle of a fluid under pressure, as recited in Claim 2. The term "cell" has been changed to "container" throughout the claims to emphasize this distinction.¹ Thus, *Kagatani* does not remedy the shortcomings of *Izuchukwu et al.* discussed above with respect to the features of Claim 2.

Furthermore, in *Kagatani*, the hydrogen fuel is stored in a centralized storage tank (see col. 9, lines 1-6), which must be formed of particular alloys (see col. 9,

¹ It is believed, however, that one of ordinary skill in the art would have understood this distinction, between a fuel cell and a cell for storage of pressurized fluid, prior to this amendment. Moreover, this amendment is not believed to narrow the scope of the claims in any way.

lines 10-19) and for which “temperature control is crucial” (col. 9, line 20). This centralized storage of the hydrogen fuel is in utter contrast to the claimed network of containers and, indeed, teaches away from the claimed invention.²

The Examiner states that the combination of *Izuchukwu et al.* and *Kagatani* would have been obvious to one of ordinary skill in the art “dependent upon the size of the cell and the amount of power needed by connecting cells together in series to create the necessary power as is well known and to obtain optimum efficiency in the operation of the fuel cell.” (Office Action at page 6). This assertion is respectfully traversed, because the modification to *Izuchukwu et al.* proposed by the Examiner relates to the physical interconnection of gas storage vessels, whereas the relevant portion of *Kagatani* relates to the electrical interconnection of fuel cells to produce a desired voltage. No basis has been established in the Office Action for concluding that the proposed modification to *Izuchukwu et al.* would have any effect on power or efficiency. It is respectfully submitted that the Examiner’s rationale does not provide a reasonable expectation of success for this hypothetical combination.³

Accordingly, Claim 2 is believed to be patentable over the combination of *Izuchukwu et al.* and *Kagatani*.

² A prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention. M.P.E.P. § 2141.02 (citing *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984))(emphasis in original).

³ “The prior art can be modified or combined to reject claims as *prima facie* obvious as long as there is a reasonable expectation of success.” M.P.E.P. § 2143.02 (citing *In re Merck & Co., Inc.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986)).

The other claims in this application are each dependent from one or another of the independent claims discussed above and are therefore believed patentable for the same reasons. Since each dependent claim is also deemed to define an additional aspect of the invention, however, the individual consideration or reconsideration, as the case may be, of the patentability of each on its own merits is respectfully requested.

In view of the foregoing amendments and remarks, Applicants respectfully request favorable reconsideration and early passage to issue of the present application.

Applicants' undersigned attorney may be reached in our New York office by telephone at (212) 218-2100. All correspondence should continue to be directed to our below listed address.

Respectfully submitted,



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IN THE DRAWINGS

The attached replacement sheet of drawings includes changes to Figure 2. Specifically, the label for the sectional line has been changed from "IV-IV" to "III-III".

(REPLACEMENT SHEET ATTACHED).